

Infection and antibiotic use after major surgery: information for health consumers

The Atlas is designed to prompt debate and raise questions about health service use and provision amongst clinicians, users and providers of health services about why any differences exist, and to stimulate improvement through this debate. This domain of the Atlas of Healthcare Variation looks into rates of infection and community antibiotic use after discharge from hospital following major surgery.

The Health Quality & Safety Commission has a range of programmes to reduce healthcare associated infections, including improving hand hygiene, preventing central line associated bloodstream infections and reducing surgical site infections. For more information, go to www.hqsc.govt.nz.

The domain raises interesting questions about rates of antibiotic use following major surgery and if there is room for quality improvement.

While 32 percent of New Zealand patients were prescribed an antibiotic in the community within 30 days of major surgery in a public hospital, only 2.3 percent of patients are recorded as having an infection after surgery before they were discharged. For patients given antibiotics, almost half were dispensed antibiotics on the same or next day of discharge following surgery, suggesting the prescription was given to the patient on discharge from hospital. This varied 2.2-fold between district health boards (DHBs), from 18 to 39 percent of patients.

Method and definitions

The risk of infection varies depending on the type of surgery involved and the complexity of surgical procedure. So, to identify infections that may have arisen during the delivery of care, the only people included in this study were those undergoing major surgery without pre-existing conditions that put them at high risk of infection. Patients were assigned to the DHB that provided the service. This means DHBs that provide more complicated surgeries might have higher rates of infection. For example, cardiac surgery is only provided in five DHBs.

Results

As might be expected due to a higher associated risk of infection, the rates of prescribing antibiotics were slightly higher following acute (unplanned) surgeries (37.1 percent) than elective procedures (27.8 percent).

The most common complication following surgery is infection, of which postoperative blood poisoning or sepsis is at the severe end of the scale. Postoperative sepsis occurred in 1.1 percent of surgeries. There was limited variation between DHBs in both infection and postoperative sepsis rates.

For elective surgery, a single preoperative dose of antibiotics is recommended to be administered 0–60 minutes before the procedure begins. It is not best practice for antibiotics to be administered routinely postoperatively.

‘Countries with high rates of prescribing antibiotics also have high rates of antimicrobial resistance,’ says Dr Roberts, Chair of the expert advisory group developing this Atlas.

'There is increasing concern around the possibility of over-prescription in both the community and New Zealand hospitals.'

If you are having surgery, do the following:

- Ask how to care for your wound after surgery, what signs of infection to look for and when to seek help.
- If you are prescribed antibiotics, consider asking:
 - what is the medicine for?
 - what is its name?
 - how and when do I take it?
 - how long do I need to take it for?
 - what could happen if I stop taking it?
 - what are the side effects? What should I do if I get these?

For more resources, please visit:

Health Quality & Safety Commission: preventing infection after surgery:

<https://www.hqsc.govt.nz/our-programmes/infection-prevention-and-control/publications-and-resources/publication/2366/>

Health Quality & Safety Commission Surgical Site Infection Improvement Programme

resources: <http://www.hqsc.govt.nz/our-programmes/infection-prevention-and-control/projects/surgical-site-infection-improvement/resources/>

Health Quality & Safety Commission *Let's PLAN for better care* guide for consumers:

<https://www.hqsc.govt.nz/our-programmes/partners-in-care/publications-and-resources/publication/2424/>

Health Quality & Safety Commission health literacy resource for health professionals:

<https://www.hqsc.govt.nz/our-programmes/partners-in-care/publications-and-resources/publication/2046/>

Health Navigator tips for medicine safety:

<https://www.healthnavigator.org.nz/medicines/m/medicines-safety-tips/>

Ministry of Health enhanced recovery after surgery resources: <http://www.health.govt.nz/our-work/hospitals-and-specialist-care/enhanced-recovery-after-surgery>